

**Nebraska.**—De Soto, 23d; Fremont, 18th; Marquette, 21st, 24th, 27th, 29th; North Platte, 10th, 18th; Stockham, 27th.  
**New Hampshire.**—Mount Washington, 13th.  
**New Jersey.**—Readington, 12th; South Orange, 19th.  
**New York.**—Albany and Humphrey, 12th; Ithaca and Mountville, 13th.  
**Ohio.**—Jacksonborough, 24th.  
**Pennsylvania.**—Catawissa, 31st; Drifton, 11th; Fallsington, 5th; Philadelphia, 5th.  
**Tennessee.**—Ashwood, 9th; Milan, 30th.  
**Texas.**—Fort Stockton, 24th.  
**Utah.**—Salt Lake City, 12th.  
**Vermont.**—Strafford and Woodstock, 19th.  
**Virginia.**—Chincoteague, 24th; Fort Myer, 11th.  
**Wisconsin.**—Embarras, Neillsville and Wausau, 22d; La Crosse, 25th; Sussex, 23d.

## SNOW.

The observer on the summit of Mount Washington, New Hampshire, reports that a light flurry of snow occurred at that station during the early morning of the 21st.

On the summit of Pike's Peak, Colorado, snow is reported to have fallen on the following dates: 11th, 23d, 24th, 28th and 29th.

Table of rainy and cloudy days, relative humidity, and dew-point for July, 1884.

Districts.	Rainy days.	Cloudy days.	Rel. humidity, %	Dew-point.
			Percentages.	
New England.....	From 12 to 18	From 5 to 11	From 71.9 to 84.6	From 53.1 to 61.0
Middle Atlantic states.....	" 10 " 18	" 4 " 10	" 64.4 " 83.7	" 57.4 " 68.2
South Atlantic states.....	" 9 " 17	" 3 " 14	" 71.2 " 83.8	" 65.0 " 74.0
Florida peninsula.....	" 7 " 16	" 2 " 7	" 71.2 " 75.9	" 73.6 " 74.4
East Gulf states.....	" 8 " 19	" 1 " 4	" 69.7 " 81.0	" 71.8 " 73.8
West Gulf states.....	" 2 " 9	" 0 " 3	" 67.1 " 80.8	" 71.4 " 76.6
Rio Grande valley.....	" 0 " 3	" 0 " 0	" 56.9 " 78.0	" 68.0 " 74.4
Ohio valley.....	" 8 " 15	" 5 " 9	" 60.0 " 73.2	" 57.5 " 66.5
Tennessee.....	" 12 " 15	" 6 " 7	" 74.3 " 78.6	" 60.1 " 68.7
Lower lake region.....	" 10 " 15	" 3 " 11	" 64.7 " 78.4	" 54.9 " 58.8
Upper lake region.....	" 10 " 20	" 1 " 9	" 69.7 " 75.0	" 49.6 " 58.4
Extreme northwest.....	" 12 " 17	" 4 " 15	" 69.3 " 82.6	" 52.2 " 55.9
Upper Mississippi valley.....	" 9 " 10	" 3 " 6	" 67.7 " 75.2	" 57.9 " 71.2
Missouri valley.....	" 13 " 17	" 2 " 6	" 69.2 " 77.0	" 57.3 " 60.0
Northern slope.....	" 4 " 15	" 2 " 7	" 43.0 " 74.2	" 35.8 " 62.2
Middle slope.....	" 0 " 12	" 0 " 5	" 43.4 " 68.0	" 47.0 " 64.2
Southern slope.....	" 3 " 7	" 1 " 3	" 50.4 " 58.6	" 54.4 " 67.7
Southern plateau.....	" 2 " 15	" 0 " 4	" 31.6 " 53.7	" 45.9 " 52.3
Northern plateau.....	" 2 " 11	" 1 " 10	" 54.8 " 59.3	" 40.4 " 53.5
North Pacific coast region.....	" 2 " 14	" 7 " 14	" 63.0 " 84.9	" 49.5 " 53.4
Middle Pacific coast region.....	" 0 " 10	" 0 " 5	" 38.8 " 87.1	" 48.0 " 55.5
South Pacific coast region.....	" 0 " 2	" 0 " 0	" 43.2 " 78.2	" 59.5 " 61.7
Mt. Washington, N. H.....	Twenty-two	Seven	91.3	43.9
Pike's Peak, Colo.....	Six	One	64.7	28.2
Salt Lake City, Utah.....	Two	None	29.6	37.4

\* Relative humidity corrected for altitude

## COTTON REGION REPORTS.

In the table below are shown the average precipitation and the means of the maximum and minimum temperatures for July 1884, with the July averages for the two preceding years, in the cotton districts. A comparison of these averages shows an excessive precipitation in all of the districts except for New Orleans and Vicksburg, and Galveston, where there were marked deficiencies. No decided changes are shown in the temperature, which was generally above the average.

Temperature and rainfall data for the cotton districts, July.

Districts.	Rainfall.			Temperature.								Extremes for July, 1884.	
	Average for July of two preceding years.	Average for July, 1884.	Departures.	Maximum.			Minimum.						
				Mean for July of two preceding years.	Mean for July, 1884.	Departures.	Mean for July of two preceding years.	Mean for July, 1884.	Departures.				
New Orleans.....	5.86	1.62	+ 4.15	91.8	95.3	+ 3.5	72.9	74.9	+ 2.0	106	62		
Savannah.....	4.81	5.38	+ 0.57	93.3	91.9	- 1.4	71.5	72.2	+ 0.7	103	56		
Charleston.....	5.84	7.15	+ 1.32	92.8	91.7	- 1.1	70.0	72.2	+ 2.2	98	50		
Atlanta.....	3.34	4.38	+ 1.04	90.6	90.1	- 0.5	68.5	69.1	+ 0.6	104	47		
Wilmington.....	4.03	6.01	+ 1.98	91.7	89.9	- 1.8	69.0	68.8	+ 0.2	101	59		
Memphis.....	4.72	4.86	+ 0.14	89.7	90.4	+ 0.7	67.7	69.1	+ 1.4	103	56		
Galveston.....	2.94	0.23	- 2.71	94.0	97.6	+ 3.6	72.5	73.8	+ 1.3	107	52		
Vicksburg.....	6.89	3.86	- 3.03	90.8	94.0	+ 3.2	70.6	72.9	+ 2.3	102	53		
Montgomery.....	3.41	5.52	+ 2.11	92.0	91.9	- 0.1	68.4	69.4	+ 1.0	101	54		
Augusta.....	3.43	3.66	+ 0.23	92.2	92.6	+ 0.4	71.0	69.7	- 1.3	106	52		
Little Rock.....	2.73	2.80	+ 0.07	91.7	94.7	+ 3.0	68.4	70.0	+ 1.6	104	51		
Mobile.....	2.71	5.14	+ 2.43	94.0	93.7	- 0.3	69.8	72.3	+ 2.5	104	51		

## WINDS.

The most frequent directions of the winds during the month of July, 1884, are shown on chart ii. by arrows flying with the wind. In the Gulf states, Ohio valley, lower lake region, and in the Atlantic coast districts the most frequent directions were from south to west; in the extreme northwest and upper Mississippi valley they were northerly; in the Missouri valley, middle, and southern slopes they were from southeast and south; in the northern slope, western plateau districts, and on the Pacific coast they were variable.

## TOTAL MOVEMENTS OF THE AIR.

[In miles.]

In the following table are given the stations reporting the largest and smallest total movements of the air in each of the various districts:

Districts.	Stations reporting largest.	Miles.	Stations reporting smallest.	Miles.
New England.....	Block Island, R. I.....	9,424	Eastport, Maine.....	4,191
Middle Atlantic states.....	Del. Breakwater, Del.....	10,542	Lynchburg, Va.....	2,174
South Atlantic states.....	Kitty Hawk, N. C.....	10,064	Augusta, Ga.....	2,493
Florida peninsula.....	Cedar Keys.....	6,311	Key West.....	5,491
Eastern Gulf states.....	Pensacola, Fla.....	5,218	Montgomery, Ala.....	3,372
Western Gulf states.....	Indianola, Tex.....	3,798	Fort Smith, Ark.....	2,650
Rio Grande valley.....	Rio Grande City, Tex.....	7,780	Brownsville, Tex.....	7,307
Tennessee.....	Knoxville.....	3,520	Nashville.....	3,294
Ohio valley.....	Columbus, Ohio.....	4,358	Indianapolis, Ind.....	3,390
Lower lake region.....	Sandusky, Ohio.....	7,848	Toledo, Ohio.....	3,729
Upper lake region.....	Duluth, Minn.....	6,440	Chicago, Ill.....	4,203
Extreme northwest.....	Fort Totten, Dakota.....	7,974	Moorhead, Minn.....	4,723
Upper Mississippi valley.....	Saint Louis, Mo.....	7,151	Dubuque, Iowa.....	3,693
Missouri valley.....	Fort Bennett, Dak.....	5,752	Leavenworth, Kans.....	3,323
Northern slope.....	Cheyenne, Wyo.....	8,135	Deadwood, Dak.....	3,642
Middle slope.....	Dodge City, Kan.....	9,795	Denver, Colo.....	5,673
Southern slope.....	Fort Stockton, Tex.....	7,669	Fort Davis, Tex.....	4,211
Southern plateau.....	Fort Apache, Ariz.....	4,719	El Paso, Tex.....	2,281
Middle plateau.....	Salt Lake City, Utah.....	4,023		
Northern plateau.....	Dayton, Wash. T.....	4,334	Lewiston, Idaho.....	1,268
North Pacific coast region.....	Fort Canby, Wash. T.....	4,239	Olympia, Wash. T.....	1,898
Middle Pacific coast region.....	Cape Mendocino, Cal.....	10,385	Red Bluff, Cal.....	4,134
South Pacific coast region.....	Yuma, Ariz.....	4,329	Los Angeles, Cal.....	3,164

On the summits of Mount Washington, New Hampshire, and Pike's Peak, Colorado, the total movements of the air were 25,815 and 12,834 miles, respectively.

## HIGH WINDS.

On the summit of Mount Washington, New Hampshire, maximum velocities of fifty miles or more per hour occurred as follows: 56, se., 4th; 60, se., 5th; 70, sw., 6th; 64, sw., 7th; 64, nw., 9th; 84, nw., 10th; 60, w., 12th; 59, w., 13th; 87, nw., 14th; 84, nw., 15th; 70, nw., 16th; 70, nw., 17th; 52, nw., 19th; 56, w., 20th; 85 nw., 21st; 84, nw., 22d; 81, w., 23d; 96, nw., 24th, (maximum); 50, nw., 25th; 71, sw., 31st.

The following high velocities were reported from Pike's Peak, Colorado: 50, w., 4th; 56, w., 6th; 50, sw., 7th; 58, sw., 8th; 64, w., 14th, (maximum); 50, w., 16th; 58, w., 22d; 52, w., 29th.

Other stations reporting velocities of fifty miles or more per hour are as follows:

Fort Maginnis, Montana, 52, nw., 31st.  
 Fort Assinaboine, Montana, 53, e., 19th.  
 Fort Benton, Montana, 50, sw., 3d.  
 Cairo, Illinois, 50, ne., 25th.  
 Dodge City, Kansas, 56, ne., 9th; 50, ne., 26th.  
 La Crosse, Wisconsin, 63, n., 25th.

## LOCAL STORMS.

**Arkansas.**—Fort Smith: between 8 and 9 p. m. of the 27th a tornado passed in a southeasterly direction over portions of the Cherokee and Choctaw reservations, in the Indian Territory, crossing the Arkansas line about fifteen miles south of Fort Smith. The corn and cotton crops in the southern part of this (Sebastian) county were badly damaged by the hail, which was of unusual size, and covered the ground in some places to a depth of ten inches. The noise from the tornado cloud was distinctly heard during its passage. Only a light shower of rain and hail fell at Fort Smith.

**Colorado.**—Pike's Peak: a severe storm occurred at Colorado Springs on the 9th. Several houses at that place and in Manitou were flooded by the heavy rainfall.

Cañon City, Fremont county: during the night of June 30—